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EXAMINER	
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ART UNIT	PAPER NUMBER
2419	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/534,011	ZHAO ET AL.	
	Examiner	Art Unit	
	Andrew C. Lee	2419	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 May 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8 and 10-15* is/are rejected.

7)☒ Claim(s) *9* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *5/05/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action in response to Application no. 10534011 filed on 5/5/2005 is entered.

Claims 1 – 15 are hence entered and presented for examination.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 5/05/2005 was filed, and the submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Specification

3. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. With regard to claim 1, one of ordinary

skill in the art has difficult time to distinguish between the preamble and the main body of the claimed subject matter.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1 – 8, 11 – 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sarkar et al. (US 20020167907 A1) in view of Kang et al. (US 6615382 B1).

Regarding claim 1, Sarkar et al. disclose a method for determining a transmission power factor being operable with an i-th re-transmission during an uplink data transmission between a mobile terminal device (UE) and a base station (BS) via a code division multiple access (CDMA) system employing an automatic repeat request (ARQ), said uplink data transmission being operated in a sequence of first transmissions and i-th re-transmissions (Abstract, Fig. 2, Fig. 9, “reverse link”, “mobile unit”, “base station”; para. [0024], ”power control”; para. [0026]; “CDMA’, “ARQ”; para. [0048]), and Sarkar et al. also disclose determining a transmission power factor ($Pi_{cmd,new}$) from a current valid transmission power factor (Pi_{cmd}) and a transmission power correction factor (ΔPi_{cmd}) such that a

difference between said error ratio and a pre-defined target error ratio (FER) is minimized (Fig. 8, paras [0078] – [0080]).

Sarkar et al. also disclose receiving a pre-defined number (M) of status information items (paras [0062], [0063]),

Sarkar et al. do not disclose explicitly said status information items each containing at least one of an acknowledgement (ACK) item and a non-acknowledgement (NACK) item in accordance with said automatic repeat request (ARQ); determining a first error quantity (Ni) and a second error quantity (Ki) from said pre-defined number (M) of status information items, said first error quantity (Ni) being equal to a number of i-th re-transmissions, said second error quantity (Ki) being equal to a number of i-th re-transmissions being responded by status information items each containing said non-acknowledgement (NACK) item; and determining an error ratio from said first error quantity (Ni) and said second error quantity (Ki).

However, Kang et al. in the same field of endeavor teach said status information items each containing at least one of an acknowledgement (ACK) item and a non-acknowledgement (NACK) item in accordance with said automatic repeat request (ARQ) (“ACK”, “NACK”, “ARQ”; Fig.1, col. 1, lines 56 – 67, col. 2, lines 1 – 11); determining a first error quantity (Ni) and a second error quantity (Ki) from said pre-defined number (M) of status information items, said first error quantity (Ni) being equal to a number of i-th re-transmissions, said second error quantity (Ki) being equal to a number of i-th re-transmissions being responded by status information items each containing said non-

acknowledgement (NACK) item (col. 13, lines 1 – 15, lines 37 – 42); and determining an error ratio from said first error quantity (Ni) and said second error quantity (Ki) ("error ratio"; col. 13, lines 31 – 47).

At time the invention was made it would have been obvious to a person of ordinary skill in the art to modify the teachings of Sarkar et al. to include the features of said status information items each containing at least one of an acknowledgement (ACK) item and a non-acknowledgement (NACK) item in accordance with said automatic repeat request (ARQ); determining a first error quantity (Ni) and a second error quantity (Ki) from said pre-defined number (M) of status information items, said first error quantity (Ni) being equal to a number of i-th re-transmissions, said second error quantity (Ki) being equal to a number of i-th re-transmissions being responded by status information items each containing said non-acknowledgement (NACK) item; and determining an error ratio from said first error quantity (Ni) and said second error quantity (Ki) as taught by Kang et al. One of ordinary skill in the art would be motivated to do so for providing method for controlling errors in a link layer using a simultaneous multiple copy scheme and an adaptive forward error control scheme, which is capable of satisfying quality of service (QOS) such as a cell propagation delay time and a cell loss ratio (CLR) for a real-time service as well as a non-real time service in a wideband wireless communication (as suggested by Kang et al., see col. 2, lines 52 – 58).

Regarding claim 2, Sarkar et al. disclose wherein said determining of the transmission power factor further comprises: determining a deviation value of said error ratio from a pre-defined target error ratio (FER) (Fig. 5, para. [0072], [0073]); in case said first error quantity (Ni) is unequal to zero or said deviation value exceeds a pre-defined deviation level: determining said transmission power correction factor (ΔPi_{cmd}) depending on at least a transmission power correction step value (ΔPi_{step}), said first error quantity (Ni), said second error quantity (Ki) and said pre-defined target error ratio (FER) (para. [0064], [0075]); and determining said transmission power factor ($Pi_{cmd,new}$) (para. [0069]); otherwise: maintaining a current valid transmission power factor (ΔPi_{cmd}) being operable with said i-th re-transmission (para. [0070]).

Regarding claim 3, Sarkar et al. disclose wherein said transmission power correction factor (ΔPi_{cmd}) increases said transmission power factor (Pi_{cmd}) in case said error ratio is higher than said pre-defined target error ratio (FER) and said transmission power correction factor (ΔPi_{cmd}) decreases said transmission power factor (Pi_{cmd}) in case said error ratio is lower than said pre-defined target error ratio (FER) (Fig. 5, Fig. 6, para. [0071]).

Regarding claim 4, Sarkar et al. disclose wherein said error ratio (Ki/Ni) is a ratio of said second error quantity (Ki) and said first error quantity (Ni) (para. [0064]).

Regarding claim 5, Sarkar et al. disclose said deviation value is an absolute deviation value of a difference between said error ratio (Ki/Ni) and said pre-defined target error ratio (FER) and said pre-defined deviation level is a pre-defined system parameter (ε) (para. [0063]).

Regarding claim 6, Sarkar et al. disclose wherein said pre-defined deviation level depends (ε) on said pre-defined target error ratio(ε = ε [FER]) (para. [0063]).

Regarding claim 7, Sarkar et al. said transmission power factor (Pi_{cmd}) being a transmission power reduction factor, said transmission power factor (Pi_{cmd}) being defined in relationship to a transmission power being operable with first transmissions, wherein said transmission power is an original transmission power being not adjusted due to one or more further supplementary power control mechanisms (Fig. 5, Fig. 7, para. [0063], [0064]).

Regarding claim 8, Sarkar et al. wherein said pre-defined target error ratio is a target frame error ratio (target FER) (“target FER”; Para. [0064], [0069]).

Regarding claim 11, the combined system of Sarkar et al. and Kang et al. discloses a software tool for determining a transmission power factor, comprising program portions for carrying out the operations of claim 1, when said program portions are implemented in a computer program stored on a readable medium

for being executed on a processing device, a terminal device, a communication terminal device or a network device (Sarkar: para. [0092] - [0094]; Kang: col. 16, lines 22 – 31).

Regarding claim 12, the combined system of Sarkar et al. and Kang et al. discloses a computer program product for determining a transmission power factor, comprising loadable program code sections for carrying out the operations of claim 1, when said program code sections are executed on a processing device, a terminal device, a communication terminal device or a network device (Sarkar: para. [0092] - [0094]; Kang: col. 16, lines 22 – 31).

Regarding claim 13, the combined system of Sarkar et al. and Kang et al. discloses a computer program product for determining a transmission power factor, wherein said computer program product is comprising program code sections stored on a computer readable medium for carrying out the method of claim 1, when said computer program product is executed on a processing device, a terminal device, a communication terminal device or a network device (Sarkar: para. [0092] - [0094]; Kang: col. 16, lines 22 – 31).

Regarding claim 14, Sarkar et al. disclose a mobile terminal device for determining a transmission power factor being operable with an i-th re-transmission during an uplink data transmission to a base station (BS) (Abstract, Fig. 3, Fig. 9, “reverse link”, “mobile unit”, “base station”; para. [0024], ”power

control"; para. [0026]), comprising: a communication interface, said communication interface transmitting a sequence of individual data packets, said transmitting being operated via a code division multiple access (CDMA) system and using an automatic repeat request (ARQ) ("CDMA', "ARQ"; para. [0048]), said communication interface receiving a pre-defined number (M) of status information items (paras [0062], [0063]); Sarkar et al. also disclose a component for determining an error ratio from said first error quantity (Ni) and said second error quantity (Ki); and a component for determining a transmission power factor ($Pi_{cmd,new}$) from a current valid transmission power factor (Pi_{cmd}) and a transmission power correction factor (ΔPi_{cmd}) in order to minimize a difference between said error ratio and a pre-defined target error ratio (FER) (Fig. 8, paras [0078] – [0080]).

Although Sarkar et al. disclose all the limitations as disclosed in the above paragraph and communication interface receiving a pre-defined number (M) of status information items (paras [0062], [0063].

Sarkar et al. do not disclose explicitly communication interface receiving a pre-defined number (M) of status information items each containing at least one of an acknowledgement (ACK) item and a non-acknowledgement (NACK) item in accordance with said automatic repeat request (ARQ); a component for determining a first error quantity (Ni) and a second error quantity (Ki) from said pre-defined number (M) of status information items, said first error quantity (Ni) being equal to a number of i-th re-transmissions, said second error quantity (Ki)

being equal to a number of i-th re-transmissions being responded by status information items each containing said non-acknowledgement (NACK) item.

kang et al. in the same field of endeavor teach communication interface receiving a pre-defined number (M) of status information items each containing at least one of an acknowledgement (ACK) item and a non-acknowledgement (NACK) item in accordance with said automatic repeat request (ARQ) ("ACK", "NACK", "ARQ"; Fig.1, col. 1, lines 56 – 67, col. 2, lines 1 – 11); a component for determining a first error quantity (Ni) and a second error quantity (Ki) from said pre-defined number (M) of status information items ("error ratio"; col. 13, lines 31 – 47), said first error quantity (Ni) being equal to a number of i-th re-transmissions, said second error quantity (Ki) being equal to a number of i-th re-transmissions being responded by status information items each containing said non-acknowledgement (NACK) item (col. 13, lines 1 – 15, lines 37 – 42).

At time the invention was made it would have been obvious to a person of ordinary skill in the art to modify the teachings of Sarkar et al. to include the features of communication interface receiving a pre-defined number (M) of status information items each containing at least one of an acknowledgement (ACK) item and a non-acknowledgement (NACK) item in accordance with said automatic repeat request (ARQ); a component for determining a first error quantity (Ni) and a second error quantity (Ki) from said pre-defined number (M) of status information items, said first error quantity (Ni) being equal to a number of i-th re-transmissions, said second error quantity (Ki) being equal to a number of i-th re-transmissions being responded by status information items each containing

said non-acknowledgement (NACK) item as taught by Kang et al. One of ordinary skill in the art would be motivated to do so for providing method for controlling errors in a link layer using a simultaneous multiple copy scheme and an adaptive forward error control scheme, which is capable of satisfying quality of service (QOS) such as a cell propagation delay time and a cell loss ratio (CLR) for a real-time service as well as a non-real time service in a wideband wireless communication (as suggested by Kang et al., see col. 2, lines 52 – 58).

Regarding claim 15, Sarkar et al. disclose a system allowing for determining a transmission power factor being operable with an i-th re-transmission during an uplink data transmission from a mobile terminal device (UE) to a base station (BS) (Abstract, Fig. 2, Fig. 9, “reverse link”, “mobile unit”, “base station”; para. [0024], ”power control”; para. [0026]; “CDMA’, “ARQ”; para. [0048]), said mobile terminal device (Fig. 2, Fig. 9) comprising: a communication interface, said communication interface transmitting a sequence of individual data packets, said transmitting being operated via a code division multiple access (CDMA) system and using an automatic repeat request (ARQ) (paras. [0024], [0025], [0048]), said communication interface receiving a pre-defined number (M) of status information items (paras [0062], [0063).

Sarkar et al. also disclose a component for determining an error ratio from said first error quantity (Ni) and said second error quantity (Ki) (“error ratio”; col. 13, lines 31 – 47); and a component for determining a transmission power factor ($Pi_{cmd,new}$) from a current valid transmission power factor (Pi_{cmd}) and a

transmission power correction factor (ΔPi_{cmd}) in order to minimize a difference between said error ratio and a pre-defined target error ratio (FER) ("Fig. 8, paras [0078] – [0080). Sarkar et al. further disclose said base station (Fig. 2, elements 42, 44) comprising: a communication interface, said communication interface receiving said sequence of individual data packets from said mobile terminal device (paras. [0024], [0025]); and said communication interface transmitting said status information items to said mobile terminal device, said status information items being based on said automatic repeat request (ARQ) ("ARQ"; para. [0048]).

Sarkar et al. do not disclose explicitly said communication interface receiving a pre-defined number (M) of status information items each containing at least one of an acknowledgement (ACK) item and a non-acknowledgement (NACK) item in accordance with said automatic repeat request (ARQ); a component for determining a first error quantity (Ni) and a second error quantity (Ki) from said pre-defined number (M) of status information items, said first error quantity (Ni) being equal to a number of i-th re-transmissions, said second error quantity (Ki) being equal to a number of i-th re-transmissions being responded by status information items each containing said non-acknowledgement (NACK) item.

However, Kang et al. in the same field of endeavor teach said communication interface receiving a pre-defined number (M) of status information items each containing at least one of an acknowledgement (ACK) item and a non-acknowledgement (NACK) item in accordance with said

automatic repeat request (ARQ) ("ACK", "NACK", "ARQ"; Fig.1, col. 1, lines 56 – 67, col. 2, lines 1 – 11); a component for determining a first error quantity (Ni) and a second error quantity (Ki) from said pre-defined number (M) of status information items ("error ratio"; col. 13, lines 31 – 47), said first error quantity (Ni) being equal to a number of i-th re-transmissions, said second error quantity (Ki) being equal to a number of i-th re-transmissions being responded by status information items each containing said non-acknowledgement (NACK) item (col. 13, lines 1 – 15, lines 37 – 42).

At time the invention was made it would have been obvious to a person of ordinary skill in the art to modify the teachings of Sarkar et al. to include the features of said communication interface receiving a pre-defined number (M) of status information items each containing at least one of an acknowledgement (ACK) item and a non-acknowledgement (NACK) item in accordance with said automatic repeat request (ARQ); a component for determining a first error quantity (Ni) and a second error quantity (Ki) from said pre-defined number (M) of status information items, said first error quantity (Ni) being equal to a number of i-th re-transmissions, said second error quantity (Ki) being equal to a number of i-th re-transmissions being responded by status information items each containing said non-acknowledgement (NACK) itemas taught by Kang et al. One of ordinary skill in the art would be motivated to do so for providing method for controlling errors in a link layer using a simultaneous multiple copy scheme and an adaptive forward error control scheme, which is capable of satisfying quality of service (QOS) such as a cell propagation delay time and a cell loss ratio (CLR) for a real-

time service as well as a non-real time service in a wideband wireless communication (as suggested by Kang et al., see col. 2, lines 52 – 58).

7. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sarkar et al. (US 20020167907 A1) and Kang et al. (US 6615382 B1) as applied to claims 1 – 8 above, and further in view of Arima. (US 7218667 B2).

Regarding claim 10, although the combined system of Sarkar et al. and Kang et al. disclose wherein said code division multiple access (CDMA) system is a wideband code division multiple access (WCDMA) system, said automatic repeat request (ARQ) is a fast hybrid automatic repeat request (fast H-ARQ) (see Sarkar: para. [0048], Kang: col. 2, lines 64 – 67).

Neither Sarker et al. nor Kang et al. disclose at least one dedicated physical data channel (DPDCH) and a dedicated physical control channel (DPCCH) are used for uplink data transmission WCDMA and said transmission power factor (Pi_{cmd}) is applied selectively on said at least one dedicated physical data channel (DPDCH).

However, Arima in the same field of endeavor teaches at least one dedicated physical data channel (DPDCH) and a dedicated physical control channel (DPCCH) are used for uplink data transmission WCDMA and said transmission power factor (Pi_{cmd}) is applied selectively on said at least one dedicated physical data channel (DPDCH) “DPCCH”, “DPDCH”; col. 7, lines 8 – 12, Fig. 5, Fig. 7, col. 8, lines 37 – 42).

At time the invention was made it would have been obvious to a person of ordinary skill in the art to modify the teachings of Sarkar et al. to include the features of at least one dedicated physical data channel (DPDCH) and a dedicated physical control channel (DPCCH) are used for uplink data transmission WCDMA and said transmission power factor (Pi_{cmd}) is applied selectively on said at least one dedicated physical data channel as taught by Arima. One of ordinary skill in the art would be motivated to do so for providing radio reception apparatus and radio reception method that reduce the effect of bit errors from early stages of repetition and that enable accurate iterative path search and channel estimation even in case transmission power rates differ between known signals and data signals (as suggested by Arima, see col. 1, lines 52 – 57).

Allowable Subject Matter

8. Claim 9 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a) Walton et al. (US 6542488 B2).

b) Sourour et al. (US 6768727 B1).

c) Tang et al. (US 7146171 B2).

d) Gllamudi et al. (US 20030123598 A1).

e) Yun et al. (US 20020176362 A1).

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew C. Lee whose telephone number is (571)272-3131. The examiner can normally be reached on Monday through Friday from 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edan Orgad can be reached on (571) 272-7884. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Andrew C Lee/
Examiner, Art Unit 2419
<12/03/2008:1Qy09>

/Edan Orgad/

Supervisory Patent Examiner, Art Unit 2419